

DIGITAL DIGEST

Vol. 6 No. 6

Devoted to Amateur Radio Digital Communications & Technology

Nov/Dec, 1993

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The DIGIPEATER

features news and information from a realm of sources on ham radio, computers, software and digital communications...

BITS & BYTES

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QRP

It doesn't take high power to work the satellites or enjoy world wide communications...
Mike Czuhajewski, WA8MCQ and Don Kovatch, N5YAK tell you more!

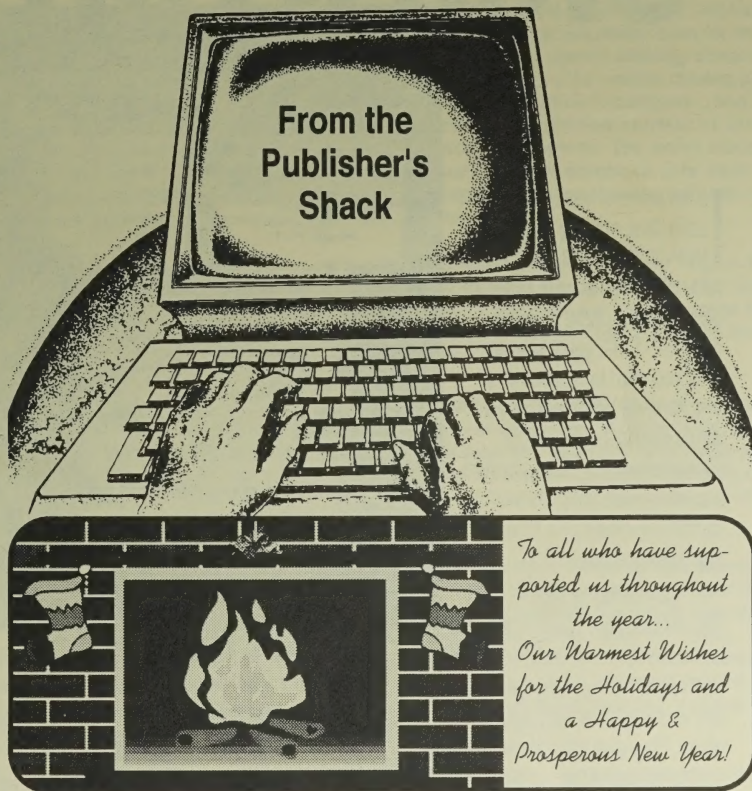
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we begin more 'in-depth' reviews with this issue's look at Log-EQF...

Plus info on:

- New Products
- Techno-Talk Radio
- Landline BBSs

& more!



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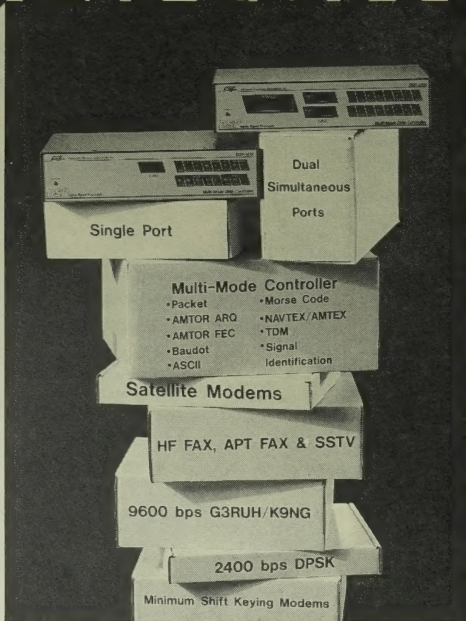
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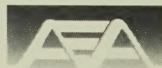
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TECHNOLOGY UPDATE

➤ **John Sculley, resigned as Apple Computer's CEO** on one day and began work as CEO for Spectrum Information Technologies, Inc. the next.

(Remember how Sculley sat next to Pres. Clinton's wife, Hilary, during January's state-of-the-union address?)

Spectrum's claim to fame is that it has developed technology that allows computer data to be sent over cellular telephone networks.

You could have made a lot of money if you had you known in advance about his job change plans. A month before Scully switched jobs, "Spectrum" stock was selling on the over-the-counter NASDAQ market near \$3.00. On October 15, it was \$11.125 up more than triple! It jumped nearly 50% the day his appointment was announced. Apparently the financial community thinks Scully can do for Spectrum what he did for Apple...take an upstart company to \$8 billion in sales.

Spectrum (with deteriorating sales and no earnings) has skyrocketed on news disclosures before. Its share value shot up above \$13.00 last May when the company mentioned that its licensing agreements with AT&T were worth hundreds of millions. When AT&T renounced that statement, the stock nose-dived down to \$3.00.

➤ **The Electronic Information Superhighway is beginning to take shape!** The planned marriage of telephone and cable giants, Bell Atlantic and Tele-Communications, Inc. (TCI) could result in the biggest corporation in U.S. History!. The \$33 billion merger will result in a consolidation of the two wireline industries. Bell Atlantic valued each of TCI's 10 million cable subscribers at \$2,000 each. The result - if Congress allows it to stand - will be a company with huge cable, telephone, paging, cellular and programming capability. (It will own significant portions of the Discovery Channel, Turner Broadcasting, QVC, Home Sports Network, Family Channel ...and many more!) The new company will offer telephone service to TCI cable subscribers and interactive video over Bell Atlantic circuits. The combined Bell

Atlantic/TCI will reach 42% of U.S. TV homes - far greater than any current media company. Is this just the beginning? There is talk now about other major broadcast networks being taken over by telephone companies.

➤ **Zenith Electronics and a Seattle-based software firm** have demonstrated a novel way to access the Internet over cable channels. A windows-based software package by Spry, Inc., provides PC users with an interface to "the network of networks."

The Internet links more than 10,000 computer networks and some 20 million users worldwide with electronic mail, newsletters, on-line communications and various databases. Its biggest problem, however, is that it is somewhat difficult to use.

The Zenith HomeWorks System consists of a PC gateway card and external RF modem that transmits and receives standard TV channels. The system transmits at .5 megabits per second with the capability of combining four .5 Mbps sub-channels into a single 2 Mbps data stream over a 6 MHz cable channel. The HomeWorks modem and software costs about \$650 and is designed to appeal to individuals as well as business users.

Spry is the first company to offer a proprietary software package which allows the public to access the Internet - but more are on the way! It won't be long before everyone will be aboard!

➤ **The Miami-based Interaxx Television Network, Inc.**, plans a 2,000 home test next Spring in Coral Gables, Florida. The Interaxx Machine features the integration of the CD-ROM, a digital

coder/decoder, phone modem, remote control and printer. The built in coder/decoder converts the digital video, graphics, text and audio stored on the CD-ROM (distributed quarterly) into analog RF output to a TV.

Basically, Interaxx downloads access codes and updates data that is stored on a CD-ROM in the "box." This interactive data could facilitate catalog shopping (40,000 items of merchandise), 150 interactive video games, ticket sales for local events, travel agency booking, computer dating, dozens of full-motion movies, personal stock portfolio tabulations ...and an almost an unlimited number of other interactive services. The home modem would transmit purchase data back to programmers or merchandisers via phone lines.

Interaxx Television does not require the use of cable frequencies, instead using non-TV channel, out-of band cable frequencies. Interaxx plans a public stock offering in mid-1994.

➤ **WHATS_UP.DOC** One of the more famous drawbacks of DOS is its eight-character limit (plus the .XXX .extension) when naming a file (Macintosh users can create filenames almost as long as they like).

PC users try to come up with names of files that, while cryptic, can trigger their memories and help them to at least try to remember what was in them. But BARB11_3.DOC doesn't tell everyone else that you wrote a letter to your cousin Barbara on November 3rd, or what the letter was about.

Fortunately, a new software package

(cont'd on page 18)

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CyberSpace & The Electronic Freedom Foundation

-- A look at the freedom, dissemination, security, use and abuse of information in a digital world --

Amateur radio operators in the United States are able to communicate with people all over the world with a certain degree of impunity. Certainly we have remained aware of the political environment in other countries, realizing many do not share our belief in freedom of speech, nor enjoy the protection offered our citizens by the First Amendment to our Constitution. Within the US we assume the right to discuss any mutually agreeable subject with our fellow citizens, and to tolerate the diverse viewpoints of the various people who populate the country. I have tuned across the bands and heard discussions ranging from the corruption of officials governing the country to conversations about the subjects our mothers warned us never to discuss in polite society—sex, politics, and religion.

Several years ago I maintained a daily CW schedule with Bryan, VE3PEV (now AB4KX), who lived in Toronto. Bryan was a former US citizen who at fourteen moved to Canada and became a naturalized citizen of Canada. I was born in Toronto and moved to the US, earning my US citizenship when I turned eighteen. Bryan, a registered nurse, and I would discuss the differences in each country's delivery of health care, carry on about the foibles and follies of our respective politicians and political systems, and talk about the torrid romance he was having with a woman in my location, Nashville. We both assumed that our right to discuss these subjects was guaranteed by our respective governments. But possibly we assumed too much.

The amateur radio community has long been a world-wide network. Marshall McLuhan called the future electronic network the global village. He assumed that television would bring the world closer together, helping eliminate differences that lead to human conflict. To McLuhan, the earth was one tiny village that must learn to live in peace by eliminating poverty, prejudice, and hatred in order to survive. The electronic network of television was the vehicle that would allow us

to become that village. But amateur radio operators were linking with each other on a global scale long before McLuhan. Radio waves know nothing about borders, countries, ethnic or racial groups, flags or national symbols, or any of the political differences that cause nations to resort to the ultimate political act, war. Radio waves leave a transmitter and travel where they may, limited only by wave characteristics and propagation. International borders and political differences are meaningless to a wave resonant at 21.025 MHz traveling toward the stations of JH2JGV, VP8DZ, TY3LH, VE7JHG, SP9DBE, or UA0FLR, all linked globally in the ether network.

When the computer entered the shacks of thousands of amateur radio operators during the seventies and eighties, and as more enter them each day, another network became available to the amateur radio operator—the network in CyberSpace, where millions of electrons flow freely every moment, each conveying information, data, and different types of communication to people linked globally over land lines. Not only can these telephone lines transmit text and voice; they can transmit graphics, pictures of things forbidden and illegal in some countries, including the US. They are also capable of carrying information that in the hands of unscrupulous users, can cause misery to others by victimizing them through credit card fraud, cracking into their computers, and other forms of abuse. A friend and I were once discussing the ethical ramifications and the right of a BBS sysop to post a list of stolen credit card numbers and she said, "Look! I will defend to the death your right to swing your arm. But that right ends where my nose begins." She was, of course, correct.

It was in light of the US Secret Service (USSS) raid against Steve Jackson Games (see *The Hacker Crackdown*: Digital Digest, Volume 6, No. 4, July/August 1993) and operation Sun Devil when, in May 1990, the USSS served 27 search warrants in 14 cities from Austin to New York, some computer

users became aroused. The long arm of the law had reached into the lives of the denizens of CyberSpace by confiscating dozens of computers, shutting down numerous BBSs, and removing 23,000 disks they deemed were used in illegal activity.

Of course, the Secret Service does not always get it right. Remember Waco and the Branch Davidians? According to John Perry Barlow, a co-founder of the Electronic Freedom Foundation (EFF) and a lyricist for the Grateful Dead, the Secret Service behaved much like the Gestapo. In their press release, the USSS stated, "the conceivable criminal violations of this operation [did they mean Sun Devil or the action of the Legion of Doom?] have serious implications for the health and welfare of all individuals, corporations, and US government agencies relying on computers and telephones to communicate." In his broadside, *Crime & Puzzlement*, Barlow describes the actions of the USSS when they raided the home of a teenage suspect:

Occuring when a father in New York opened the door at 6:00 AM and found a shotgun at his nose. A dozen agents entered. While one of them kept the man's wife in a choke-hold, the rest made ready to shoot and entered the bedroom of their sleeping fourteen year-old. Before leaving, they confiscated every piece of electronic equipment in the house, including all the telephones.

Barlow also views CyberSpace as a frontier analogous to the US in the latter part of the nineteenth century, the Wild West. There is much space to be claimed, plenty of territory that remains unexplored, and those of us who are adventurous with our modems are already riding the blazing saddles astride the new pony express, the international data networks of the future.

But enter the power freaks. Those who wish to control the lives of others are always alert to new possibilities, and considering the high stakes in this high-tech frontier, it is not surprising that the most



powerful institutions stand ready to exercise whatever power becomes available to them to gain control of the digital information highways and trails being blazed by amateur computer users.

In December 1989, Harper's magazine sponsored a conference on the WELL (Whole Earth 'Electronic Link), a San Francisco-based BBS that was an offshoot of Stewart Brand's populist Whole Earth Catalogue, a techno-nerd hangout for aging hippies. The forum was convened to discuss the "complex issues surrounding computers, information, privacy, and electronic intrusion or 'cracking'". Among the nearly 40 participants were Phiber Optik and Acid Phreak, two teenage hackers and Legion of Doom members who were later caught up in Operation Sun Devil, Clifford Stohl, K7TA, the author of the intriguing Cuckoo's Egg that examined the role of the German Chaos club's entry into Stohl's computers at Berkeley Laboratory, and Lee Felsenstein, the designer of the Osborne computer. And it was on the WELL that John Perry Barlow met Mitch Kapor, the author of Lotus 1-2-3. Both had been visited by FBI agents after the copying of the Apple Macintosh source code by the NuPrometheus League. The agent who interviewed Barlow did not know a computer chip from a cow chip, and Barlow spent most of the interview explaining to the agent just what it was that had been stolen, including whether stolen is indeed the right word.

Property in the digital domain assumes a different form than it does in the analog or real world. The property in the digital domain has no physical form other than electronic. Property becomes electrons in motion. It is intellectual. It is information. But unlike the back 40 acres, it can be infinitely reproduced. Barlow asks rhetorically, "What is data and what is free speech when it comes to a free press in the digital domain?" What about magazines and journals that are published exclusively in the virtual world of digital? Who will protect the right of electronic journalists to publish and the world of digital publishing to flourish? Emmanuel Goldstein, editor of 2600, when asked if he were not afraid of being closed down for publishing a purloined E-911 document, replied, "No! I've got one advantage. I come out on paper and

the Constitution knows how to deal with paper." But the NuPrometheus League, ostensibly named after the god who gave man fire, had removed the Macintosh operating system source code, and they were spreading it to other users, striking fear into the hearts of folks at Apple. Hence the FBI and agent Richard Baxter, when shown some source code by Barlow, said: "It sure is something, isn't it?", and "Whooooo-ee...my eight-year old knows more about these things than I do." He refers to the NuPrometheus League as the New Prosthesis Leg. When potential suspects must explain to law enforcers the nature of the crime they are supposed to be investigating, there is reason to believe that Kafka got it right the first time when he wrote about Joseph K. in *The Trial*.

Barlow posted an account of his encounter with the FBI on The WELL where Kapor read it. Stopping by Barlow's Wyoming home, Kapor found he and Barlow agreed that the recent actions of the government deserved scrutiny by a citizen's group. They formed the Electronic Freedom Foundation (EFF) to educate and raise funds for lobbying and litigation in areas relating to digital speech and the role of the US Constitution in the future of CyberSpace. They also fund, conduct, and support legal efforts to demonstrate that the Secret Service has exercised prior restraint on publications, limited free speech, conducted improper seizure of equipment and data, used undue force, and generally conducted itself in a manner that is arbitrary, oppressive, and unconstitutional toward citizens of the United States.

Goals of the EFF include but are not limited to:

- *Protect the public interest in the digital domain
- *Launch a software development program that promises wide access to existing and future networks without intensive training (Ever try to navigate the InterNet?)
- *Work to keep the cost of network access low to insure that our nation and the world does not devolve into information rich versus information poor factions.
- *Support an electronic and print publication program to help new and experienced users of networks to maximize their own and the technology's potential.
- *Commission studies on the

future of computer networks and their impact on the nation and the world. *Build coalitions of public interest, academic, corporate, and concerned individuals for specific actions on items of legislation and policy on the federal level. *Help to defend people wrongly accused of computer crime and to ensure that users of digital technology are extended the full range of Constitutional protection. (It is in this area that the EFF has gained a wrong-headed reputation as a defender of hackers and computer outlaws.) *Provide advice and counsel on information age issues to citizens, corporations, governmental organizations, the media, and other public interest groups. *Raise the consciousness of citizens and organizations regarding both the rights and responsibilities of users of computer networks. *Maintain a Washington DC, office to shape public policy designed to maximize freedom, competitiveness, and civil liberties in the electronic social environments created by new computer and communications technologies.

The primary goal of the EFF is to establish an electronic democracy that will maintain and enhance the First Amendment, privacy, and other democratic values while retaining our competitive and entrepreneurial position in the world.

Operation Sun Devil's raids against members of the Legion of Doom may have been the final straw that galvanized citizen awareness of the role our government was playing in CyberSpace. The raid was covered gingerly by establishment press. Only Newsweek carried a feature article, while the majority of the media, who have a vital and obvious self-interest in the issues involving free speech, ignored the raid. Possibly the image of the CyberPunk is too difficult for the press to conceptualize. Barlow suggests that the CyberPunk is the perfect bogey-man for modern times.

He is so smart he makes you feel even more stupid than you usually do. He knows the complex country in which you're perpetually lost. He understands the value of things you can't conceptualize long enough to cash in on. He is the one-eyed man in the country of the blind. In a world where you and your wealth consist of nothing but beeps and blips of

(cont'd on page 9)



QRP

by Don Kovatch, N5YAK

Reading ham equipment manufacturers' ads in the ham magazines, you might get the impression you absolutely need the latest expensive, complex gear, antennas, and towers—and a 1.5 kW linear—to operate on the HF bands.

You don't. For less than the cost of a two meter handy-talkie you can set up a QRP (less than 5 Watts output) CW station that will work stations all over North America and even across oceans. All you need is a simple wire antenna, a QRP rig, a key and a small power supply or battery.

You will be surprised how many stations will be able to hear your QRP signal. I find it much more satisfying to make a contact with 4 Watts than with 100 Watts—especially when the other station expresses surprise at how low of power I'm running.

One big advantage of QRP is that you won't bother your neighbor's phone or TV, even if your neighbors are in the next apartment. But many hams operate QRP because they prefer it over QRO; they enjoy the challenge. My friend WA0SWD in Andover, Minnesota says his QRP club made over 500 QRP CW contacts on Field Day—not as many as some QRO stations, but certainly respectable.

There are several QRP transceiver and transmitter kits on the market. They provide a way to experience what hams had in earlier days with Heathkit. And when you work other QRP stations, you will discover many operators who have built their rigs from scratch.

QRP'ers proudly talk about the number of miles per Watt they have worked. My recent contact with N3LAZ near Pittsburgh—who operated his homebrew, 0.7-Watt rig—works out to 1700 miles per Watt.

Part of the fun is the sheer wonder of such accomplishments. So for something different, give QRP a try. Besides being inexpensive, the equipment is light weight, and compact, making it ideal for camping or mobiling, or for taking along when you travel by air. —ARNS

QRP via HF Satellite

by Mike Czuhaiewski, WA8MCQ

Do you ever get bored working QRP on HF? I do; there have even been times when 10 meters was hot but I tired of working the West Coast and Europe with 35 milli-Watts from here in Maryland. I needed a new type of QRP activity, preferably something independent of high solar flux.

What I found is QRP via satellite, using RS-12, one of two Russian satellites in low earth orbit (LEO). RS-12 has operated in "Mode K" for several years now—uplink on 15 meters and downlink on 10. You can use your current HF rig and antennas.

RS-12's LEO makes it appear frequently—six times per day, in two sets of three quick passes. A good pass gives you up to 15 minutes of operating time, but many provide far less. You learn not to dawdle, making your contacts short and sweet—little more than signal reports, QTH and exchange of names.

How can you tell when the bird will appear? The low-tech method is to leave a receiver on 29.408 MHz and wait. But a computer program can predict when a pass will occur. The programs require the Keplerian elements for the satellite—the orbital data. You can get these via packet.

AMSAT has several satellite programs for sale, and others offer them too. I've used a shareware program called TRAKSAT. TRAKSAT doesn't provide an output to drive your antenna rotator as the satellites move, but you don't need a beam for RS12. The program does do a fine job of telling you when the bird will be overhead.

What equipment do you need? It's best to use separate rigs for uplink and downlink, so you can hear your own signal coming back from the bird; then, even if you don't manage to work anyone, you will know you are making it into the satellite—a moral victory. A second receiver makes it a snap to zero-beat someone; you just send a series of dits while tuning the transmit VFO until your signal is where you want it.

Using a separate rig also allows you to observe one of the important rules of satellite operation: keeping your power level down so your downlink signal is no stronger than the satellite's CW beacon. An overstrong signal uselessly drains the satellite's batteries. Of course if you use a QRP rig, you won't need to worry about overloading the satellite.

I usually use my regular HF transceiver, a TS430S, in split-frequency mode, sending on 15 meters and receiving on 10 meters, even though this does not provide the two-receiver advantage.

I tune my antenna, a 40-meter delta loop, for a match on 15. This produces a mismatch on ten meters, but you don't need a good match for receiving.

If you don't use two receivers, you must make an educated guess at your transmit frequency—because Doppler shift changes it. Experienced satellite users tune around a bit after calling CQ, so it doesn't matter if you're off a few kilo-Hertz.

The low orbit limits RS-12's coverage, but I've managed to work the West Coast, and I've worked over twenty states without half trying, all QRP. So give RS-12 a shot. It's easy and it's fun.

Where can you find more information on working HF satellites? Articles have appeared recently in 73, QST, Worldradio, the QRP Quarterly and Digital Digest.

—from the August '93 *Clearwater (Florida) ARS*
"The Clearwater Connection"; Steve Sanders, N4WAK, Editor; ARNS



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presents...

QRP PLUS

- 5 Watts CW & SSB
160M thru 10M
- SCAF Digital Audio
Filters (100Hz to 2400Hz
Variable Bandwidth)
- Compact, Truly
Portable, Low Power
Drain (.14A @ 12V on Receive)
- 20 Memories, SPLIT, RIT
- Full Break In

\$595

NEW!

Now the features and performance you would expect in a full size rig are yours at half the size, half the price, and a tenth the power drain. Serious QRP operation demands more from a receiver, not less. You get the ability to sort out weak signals amid high power QRM; freedom from overload and precise filters. All bands, yet truly portable (5-1/2"W x 4" H x 6" D). The transceiver is compact and rugged, and its low power drain means a weekend of use on a small battery.

A unique single conversion up-converting design provides exceptional receiver performance with a significant reduction in size, cost and power consumption.

The QRP PLUS incorporates SCAF variable bandwidth digital filters. Adjust from 100Hz to 2400Hz bandwidth to slice out QRM simply and cleanly. The digital filters are remarkably sharp and free from ringing.

MEM The QRP PLUS has 20 memories. Press and hold the MEM button and turn the main tuning knob to move from memory to memory.

FAST Press and hold the FAST button to tune quickly across the band.

STORE Press the FAST and MEM buttons simultaneously to store the current frequency in memory.

NORM <-20 DB> Use the input attenuator with very strong signals or high band noise.

BANDWIDTH Press and hold the BANDWIDTH button. The bandwidth will be displayed. Turn the main tuning knob to vary the bandwidth from 100Hz to 2400Hz.

XCVE/RIT/SPLIT In the XCVE position the QRP PLUS receives and transmits on the same frequency. Switch to RIT and the transmit frequency remains fixed while the receive frequency can be varied.

REV Working Split: The DX station is listening up 5KHz.

1. Tune in the DX station with the switch in the XCVE position. 2. Switch to SPLIT. 3. Press and hold the REV button while tuning to listen for stations calling the DX. 4. When you have found the DX station's listening frequency, release the REV button and call. You will be transmitting on his listening frequency and listening on his transmitting frequency.

The QRP PLUS requires 12VDC at 1 Amp. on transmit and 140 MA on receive. A well regulated AC supply or Gell Cell rechargeable batteries are suitable.

Separate connectors and an internal jumper allow the QRP PLUS to be conveniently interfaced with VHF/UHF transverters and external linear amplifiers.

For more information - call or write to
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As more and more computers are entering the ham shack, the quest for software to make our operations faster, easier and more enjoyable is becoming ever more apparent. Whether we are using our computers to interface with our rigs, multi-mode TNC's, or to simplify our record keeping, there has grown to be a potpourri of software to cater to every need. With this in mind, Digital Digest plans to begin <with this issue> a series of "in-depth" software reviews.

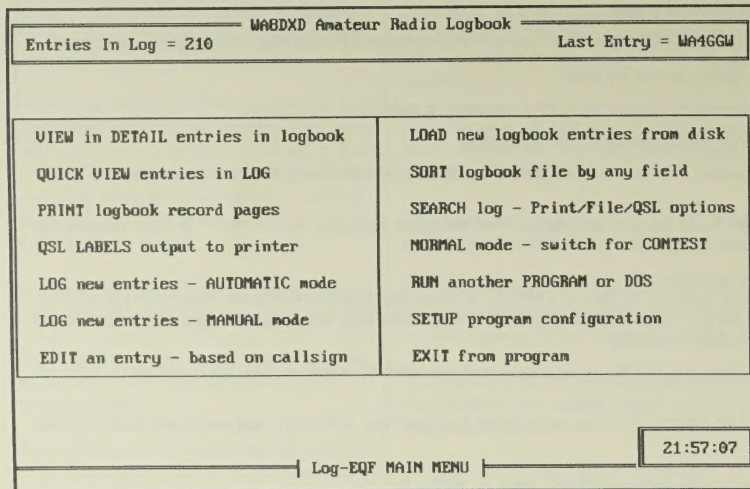
We plan to include a more generous application of "screen captures" so that along with the written word, you will be able to visualize, as nearly as possible, how the application will look on your monitor. These reviews will encompass both programs developed specifically for amateur radio as well as those which may have applications to our hobby.

Since the needs of one ham operator may not necessarily be the needs of another, our reviews will not attempt to prejudge the worthiness of a particular program for your operations, but rather to present as factually as possible what the programs capabilities are as opposed to its perceived weaknesses. You, we feel, will be the best judge in determining the worthiness of a program to meeting your needs. We will however try to bring to your attention any encountered operational flaws or idiosyncrasies within the scope of the programs intended purpose. With that said, we begin this issues "in-depth" software review.

Log-EQF

Although log keeping has long since ceased to be an FCC requirement, many of us still like to keep an accurate log of our QSOs. Paper entries can certainly fill the bill in maintaining an accurate log but as time progresses and the memory lapses — recalling previous QSOs can become a real hassle. Whether its updating QSL info, sorting out QSOs for awards or just trying to recollect a familiar call you hear on the air, computer aided logging can sure take a lot of the drudgery out of log keeping and add to the pleasure of operations. Computerized loggers have become more popular and is an area where many programmers have devoted their interests.

Log-EQF, is a shareware program written by Tom Dandrea, N3EQF for IBM and compatibles. The program has been in existence for several years and is constantly being updated with new features. Version 5.20 is the most recent as of this writing and will be discussed here.



Before going into greater detail, here is a brief bulleted list of the programs main features:

- Automatic log entry mode
- Manual entry mode
- Near instant dupe checking
- Qsl labels and mail address look-up
- Rig-control for most radios from within the log as well as a stand-alone rig control module
- TNC Terminal control
- DXCC record keeping
- Import/Export filters
- Contest Mode

Installation & Setup

Installation of the program is straight forward. Just place the disk in the appropriate drive and type INSTALL. The program will automatically unpack all the required files onto your hard drive C: in a sub-directory Log-EQF unless you specify a different drive/directory.

Fig. 1: The Main Menu Screen -

Selecting any of the options can be easily accomplished with mouse or keyboard

(cont'd on page 14)



(cont'd from page 5)

micro-voltage, he can steal all your assets in nanoseconds and then make you disappear.

Frightening indeed. But Barlow is optimistic, suggesting that those who feel comfortable in the digital world lead our brothers and sisters gently into CyberSpace so they too will become comfortable in the digital world of communications we take for granted. Let us not allow the government to dictate to US citizens what can or can not be published in the digital world. Let us democratize CyberSpace for the benefit of all by guiding our fellow citizens through the maze of technical garbage that surrounds the gates to the frontier. It is in our self-interest to do so.

What can we as citizens do to insure that we retain the freedom to express ideas in the digital domain without fear of reprisal from our own government? One suggestion, made by Jim Davis on The WELL, includes a platform proposed by the Computer Professionals for Social Responsibility that states as its purposes:

*To promote the use of computer and information technologies to improve the quality of human life and maximize human potential.

*To provide broad and equal access to computers and information technology tools.

*To raise consciousness about the effects of computer and information technologies among the community of people who create and implement these technologies.

*To educate the general public about the effects computers and information technologies have on them.

*To focus public attention on the political agenda that determines what gets researched, funded, developed and distributed in computer and information technologies.

*To democratize (that is, enhance the public participation in) the process by which computer and information technologies do or do not get researched, funded, developed and distributed.

Additional information can be obtained from the Computer Underground Digest edited by Jim Thomas and Gordon Meyer via InterNet: tk0jut2@niu.edu, telephone 815-753-6302 or Jim Thomas, Department of Sociology, NIU, Dekalb, IL 60115. The EFF can be reached at 155 Second Street, Cambridge, MA 02141 Phone: 617-864-0665 Fax: 617-864-0866 Internet: eff@eff.org or 666 Pennsylvania Avenue, S.E., Suite 303, Washington D.C. 20003, Phone 202-544-923 Fax: 202-547-5481.

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The Constitution of the United States of America, Philadelphia, PA, 1789

Be a Railroad Telegrapher

by Arjay Morgan, N3LKZ

Many retain nostalgic memories of visits to the railroad depot—the grimy waiting room, the ticket agent behind the wicket and, over in the corner, that fascinating character with the green eyeshade who made sense of strange clicks and clacks. Yes, when locomotives belched smoke and cinders, and passengers wore suits and ties, the railroad telegrapher was a mainstay.

Nothing happened in his heyday that didn't involve the telegrapher; with a straight key and sounder, he handled clearances for train movements, waybills, passenger counts—just about everything.

Unlike a wireless Morse operator, the landline telegrapher didn't listen to dits and dahs; instead, he counted silences. The sounders were moving-armature

devices that made one sound, a sort of "clack," when they went down and a subtly different "click" when they returned to their rest position. The space between the clacks and clicks made the difference between dots and dashes, and the ability to "hear" those silences made the railroad telegrapher's skills unique.

Things have changed, but if you look carefully in the right nooks and crannies—usually in private collections or museums—you can still find railroad keys and sounders. Except in Tampa, Florida, where a large section of the Florida State Fairgrounds is set aside as "Cracker Country," a re-creation of life in rural Florida at the turn of the century. One building in Cracker Country, the old Okahumpka railroad station, has an actual telegrapher's station. It's complete down to the straight key, the sounder and its associated "prince Albert can" resonator, and even a telephone on scissors stand. The only thing missing is an operator.

Ann Singletery, who runs Cracker Country, wants to bring that telegrapher's station back to life. To do that, she needs operators. It's a nifty deal. Those selected get to operate the old equipment and to explain how things were to thousands of visitors to the State Fair in February, 1994. So if you have the inclination, not to mention the Morse skills, give Ann a call at (813) 621-7821, extension 276.

—from the May '93 *Clearwater* (Florida) ARS "The Clearwater Connection"; Steve Sanders, N4WAK, Editor

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(cont'd from page 3)

called IDF from Almax Software eliminates the eight-character barrier and expands it to 31. Trying to keep track of your contest logs, communications files and other important data becomes much easier when you can use almost a full sentence to describe the contents of the file. Now you can call up a directory and see:

FIELD_DAY_1993_20_METERS_LOG.

Nothing cryptic about that. Retail price of IDF is \$59.95.

Cellular telephones have been taking a beating in the British press lately, being blamed from bad calls to curtain calls. Tennis officials at Wimbledon shut off the electronic court sensors that normally detect out-of-bounds shots, due to RFL in London, the opening of Andrew Lloyd Webber's new musical, "Sunset Boulevard," was delayed for 13 days until technicians could find out why the hydraulic pumps on the scenery were turning on by themselves — cellular telephones were to blame again.

Ask a group of helicopter pilots what their greatest fears are and one of the answers will probably be "power lines." Unlike broadcast towers and masts, power lines are not as strictly regulated in terms of illumination. McDonnell Douglas hopes to rectify that with their new power line sensor, which warns pilots when they fly too close. The sensor detects the magnetic fields induced by the high-voltage wires; if the lines appear to be in the path of the helicopter, the sensor alerts the pilot. Power lines up to 3.5 miles away can be sensed.

Chopper pilots are always advised to steer clear of radio towers, and not just because of their height. There have been cases in which the powerful RF signals they emit got into the electronic guidance systems of some helicopters, causing them to crash because the pilots couldn't regain control.

The world's smallest PC-compatible motherboard is now available from Epson. Produced by SMOS Systems, the 386 motherboard includes VGA graphics, ROM and RAM on board —all on a

space the size of a credit card! All external devices, such as power supply, keyboard, monitor and disk drives, are added through several small sockets.

Prerecorded videotape dealers have been screaming for years over their loss of money because renters borrow a tape, copy it, then return it without ever renting it again. Various techniques to prevent copying have tried and failed over the last few years. But a British company, Shapecourt Ltd., is trying out a new technique that involves planting a digital controller inside each videotape. The VPS System, as it is named, keeps the video signal scrambled until someone wants to rent the tape. At that point, the clerk commands the inside controller to descramble the video signal for however long the customer wants to pay: one day, two days, or three. If the tape isn't back by then, the controller scrambles the picture again!

"Let us help you out or in," says a sign in a locksmith's store window. The same can be said for radio-frequency interference—RFI. Keeping it from leaving the inside of your radio is just as important to your community as it is keeping it from reaching your receiver from the outside. A new type of interference filter in the form of a plastic-like sheet is now being used by many engineering firms to fight RFI. Companies that manufacture this material claim up to 100 dB of shielding, at frequencies as high as 18 GHz! Soft and pliable, the shielding filter can be cut with scissors, positioned very exactly, and used just about anywhere. Perfect for hand-held equipment.

Thanks to digital hardware and software, telephone users serviced by Illinois Bell in Chicago can now subscribe to a deluxe form of Caller ID. This souped-up version not only displays the number of the telephone calling you, but also shows you the name of the caller. If it's a business calling, the unit will say so. The information provided shows the name of the owner of the phone, not the person actually using it. (The technology isn't quite that far yet!) If callers don't want their names shown in this manner, they can of course block it from view... not by paying a fee, but by dialing a special prefix before dialing the phone number.

Instead of sending the kids into the next room when the TV show gets too steamy or too violent, viewers may soon be able to use a device and service that automatically blurs portions of the screen deemed too mature for younger audiences. VideoFreedom, of San Diego, says that the device works by use of data transmitted during the vertical blanking interval (VBI), which tells the add-on device exactly which portion of the picture to blur. VBI is also home to closed captioning and Teletext. In addition to pictures, bad language can also be edited out on the fly. A remote control comes with the device, so viewers can disable the unit if they so desire.

VideoFreedom's unit works by means of a microprocessor based video and audio editing system, enclosed in a box very much like a cable converter. But instead of receiving editing commands from a control panel, it is told what to do by the incoming video signal.

About 2.5 million Americans suffering from diabetes must prick their fingers for blood sample testing up to five times a day. Doing so on a regular basis can get old after a while, and some patients either can't or won't do it as much as needed.

Sandia National Laboratories has come up with new approach. Their device uses ordinary infra-red light to literally "see" into a finger. An IR-emitting diode sends a beam of invisible light into the digit, and a sensor on the other side reacts to what it sees. Blood vessels and tissues either absorb or transfer the light, according to the frequency spectrum.

While this system is still experimental, it promises to provide a safe, painless, and quick way of monitoring several other blood levels, including alcohol. A sobriety test could be done using this method, and would be much more difficult to beat.

CD-ROM equipment has become so popular that manufacturers can't keep up with the demand. Experts expect the market to nearly double this year! Apple Computer, Inc., will begin installing CD-ROM drives into all their Macintosh computers later this year. Over six million CD-ROM drives are in use.



CD-ROM is popular because it holds tremendous amounts of data and can retrieve it quickly. Although it is strictly read-only memory (which means it can't record anything), dozens of companies use it to store thousands of pictures and songs, volumes of encyclopedias, atlases, and of course even Amateur Radio call signs. Video game manufacturers such as Sega and Nintendo are already using this technology for their home systems.

-- W5YI Report



Landline BBS Taking a 2nd Look

Here are some amplifications based on responses we received on the article "A Look at On-Line Services that Serve Hams" by Kelly Bruce, WD4DAT published in our Sep/Oct '93 issue.

Although stated that CompuServe is the most expensive of the on-line services, Richard Stuart (AEA Tech Support Correspondent) brought to our attention a way to cut down on the charges through a PC software program called TAPCIS. He states that "the program logs you onto CompuServe, reads and retrieves all the (user) selected forums of interest and E-mail, uploads your messages, then logs you off..." This way, you can read all your messages "off-line," at your leisure, instead of running up a large tab reading and responding to mail and messages while connected on-line. Richard went on to say that "We (AEA) use TAPCIS on a daily basis and with the large number of messages and mail we handle, we're connected to CompuServe for less than ten minutes with a 2400 baud modem."

You can obtain more information on TAPCIS by calling 1-800-872-4768 (Fax# 1-301-387-7322) or writing to: Support Group, Inc., Lake Technology Park, McHenry, MD 21541.

We also received some admonishment from several readers (including Michael Donovan, Spec-Com Journal & Larry

(cont'd on back page)

"Earthwinds," the most ambitious manned balloon flight ever attempted, is the creation of Larry Newman, KBTJGM, of Scottsdale, AZ. Newman has previously crossed both the Atlantic and Pacific ocean in record-breaking flights. We have been following the "Earthwinds Project" for some three years now.

This time, Newman will again attempt the first ever around-the-world manned helium balloon flight. It will be his second try. His first effort was actually scheduled for early 1992. That flight was to begin in Akron, Ohio, then to Europe, across Russia to the Pacific Ocean, then back to the U.S. The Earthwinds balloon is really two balloons - one over the other. It sort of looks like an hour glass. A climate-controlled 25 ft x 10 ft enclosed pressurized gondola hangs from the upper 140 ft diameter zero-pressure helium balloon made of gossamer-thin plastic film. Below the gondola, a 100 ft diameter variable pressure compressed air balloon acts as ballast. The \$5 million balloon system is as tall as a 35 story building and is filled with 1.1 million cubic feet of helium, equivalent to the helium in more than five Goodyear blimps.

On the first attempt, the ESPN cable TV network was signed up to carry the launch live and use transportable satellite stations and an airborne satellite link would provide live video coverage during the flight. Using new light-weight low-power British Telecom video compression equipment, the crew planned to broadcast a live update on ESPN daily at 7 p.m. The "iV" unit converts sound and pictures into digital data to be transmitted from the gondola to INMARSAT, a satellite network used for maritime voice and data communications. A one-hour special "Expedition Earthwinds: Balloon Around the World" was to be aired at the end of the flight.

Earthwinds Balloon to carry Amateur Radio



Since Larry Newman, KBTJGM had a Novice ham ticket, plans were to have an on-board 10 meter radio digitized voice beacon on 28.303 MHz lashed to the Global Positioning System (GPS) which would read out the balloon's latitude, longitude and speed in knots at 15 and 45 minutes past the hour.

But the flight never happened. Inclement weather forced the delay. And the launch window closed!

The next attempt was scheduled for late 1992. But on Thursday evening, November 19, disaster struck! The inflatable dome housing the anchor balloon and much of the gear for the launch ripped open. Some 50 people inside got out as the building collapsed completely freeing the fully inflated 100-ft diameter anchor balloon. It rolled a half mile into the desert ...ripped and deflated. It was decided eliminate the use of the inflatable dome. The next attempt would be an open air launch.

It took another until couple of months to fabricate a new anchor balloon. Once the balloon was again ready, the project went "on hold" waiting for the right weather conditions. The long awaited round-the-world balloon launch finally took place in 'Reno, Nevada,' this past January. But it didn't last long. Its dangling ballast balloon crashed into a mountain and was badly damaged. The crew let out the helium and safely landed. Back to the drawing board, The launch window extends from November to February so it would be late 1993 before another attempt could be made.

All is ready again!

Wind conditions in the jet stream are looking favorable again for a launch any day now of the Earthwind's balloon - now

(cont'd on page 12)



(cont'd from page 11)

called the "Earthwinds Hilton Balloon." Two of the four-man crew are licensed radio-amateurs. And Larry Newman has now upgraded to a Technician Class ham operator! He will be operating under his call sign, KB7JGM/KT.

Earthwinds is scheduled to launch from the Reno Stead Airfield in Reno, Nevada, when the wind and weather conditions are right. A host of big name sponsors are contributing to the effort. Besides Hilton Hotels, there is American Express Travel, Nestle' USA, Miller Brewing ...and others. ESPN is not listed as a sponsor for this second attempt. The balloon should reach floating altitude within two hours of launch.

Russian amateur operator Vladimir Dzanibeckov, RV3DD, the balloon pilot, is also aboard, but will be communicating in Russian to his own people as well as to the Mir space station in earth orbit. The other crewman, Richard Abruzzo of the United States is not a licensed amateur. The mission is supported by NASA, NOAA and the Yuri Gagarin Cosmonaut Training Center.

Since Newman is now a Tech, all ham communications will now be conducted on the 2-meter simplex frequency of 145.550 MHz. This will facilitate communications from the balloon to both the Mir space station, as well as to all amateur operators throughout the world.

"We hope to work as many amateur operators as we can hear simplex on 145.550 MHz from 35,000 feet, near the 45th parallel around the earth," comments Larry Newman. "And since we're only going around once, listen for us at day 1 on the West Coast, day 2 over the Midwest and day 3 on the East Coast," adds Newman. There are 73 nations located within a global band between 30 and 60 degrees north latitude, any of which Earthwinds might overfly.

The launch will be a major media event, so amateur operators should listen to news broadcasts on commercial radio and television for the 48-hour countdown. This is the second attempt at launching the double Earthwinds balloon to float all the way around the world at 32,000 to

35,000 feet in the jet stream. Ground speed will be at about 75 miles per hour. Earthwinds plans to cover about 1,800 miles per day.

The goal of the mission is to become the first

manned balloon to circumnavigate the earth and to break the world distance record (5209 miles) presently held by Larry Newman and the 144 hour duration record held by Richard Abruzzo. Newman is the only man alive to have traversed both the Atlantic (in 1978) and Pacific Ocean (1981) by helium balloon.

All crew members are highly qualified! Newman flew solo in an airplane for the first time at age 12. And by 17, Newman had attained all of this pilot's ratings and became a flight instructor. He holds the Congressional Gold Medal, the nation's highest award for Aviation Achievement. (This award has also been granted to such aviation heavyweights as Charles Lindbergh and the Wright Brothers.) Newman also captain's a Boeing 757 for America West Airlines.

Richard Abruzzo (age 30 with 15 years of ballooning experience) will serve as balloon pilot during the round-the-world flight. Richard is the son of the late Ben Abruzzo who accompanied Newman on both the Atlantic and Pacific Crossings. Richard completed his first balloon voyage from North America to Africa just last year.

Earthwind's Co-Captain, Vladimir Dzanibeckov, is a Major General in the Russian Air Force and Chief of the Cosmonaut Training Department at the Yuri Gagarin Cosmonaut Training School. He has spent a total of 146 days in space, completed two space walks and is a two time hero of the Soviet Union.

Crew chief Dave Melton, 34, is an accomplished hot air and gas balloon pilot who has won several awards for his expert flying.

The intended course will take the Earthwinds over the Rocky Mountains toward the eastern United States. The air currents could take the balloon on a northern route over New England, the

Atlantic Ocean, Great Britain, northern Europe and Siberia; ...or Earthwinds could float on a southern course across the Carolinas before heading out over the Atlantic, traveling across Asia and Japan before reaching the Pacific Ocean. While the specific route will be determined by air currents, Earthwinds generally will travel across the mid-latitudes of the Atlantic. After crossing the Pacific and re-entering the continental United States, with success, the landing should take place east of Reno two to three weeks after launch.

Navigation will be provided by satellite. The Global Positioning System (GPS) will read out the capsule position to an accuracy of within a few feet. This information will then be transmitted via the ARGOS satellite to the Earthwinds Hilton Operations Center at the Reno Hilton. A COSPAS/SARSAT satellite Locator transmitter will be used for search and rescue in case of an emergency.

Only amateur radio 2-meters will be used to conserve power and to avoid time-wasting pile-ups. The locations of the simplex 145.550 MHz QSOs will be determined by the jet stream as Earthwinds floats over the United States. Amateurs should listen between 30 and 60 degrees north latitude.

Shortwave listeners may also wish to tune in the following frequencies assigned to the Earthwind's balloon project by the Federal Communications Commission in a special temporary authority (STA). All frequencies are upper sideband: 5.451, 5.469, 5.571, 8.822, 10.045, 11.306 and 17.964 MHz. SWLs should listen for the call sign: N93VH.

The capsule's 2-meter antenna is a DC, shunted, halfwave Metz antenna, featuring a stainless steel coil and stainless whip; specifically tested to an outside operating temperature of minus-60 degrees Fahrenheit. Newman expects to receive calls as far away as 500 miles when he is up high in the jet stream.

"We will try to keep a log of every call sign we hear — even bits and pieces of call signs — so give it your best shot. When possible, we'll try to read back as many as we hear clearly," adds Newman. A colorful QSL card picturing the 180-foot



upper balloon and 100-foot ballast balloon will be sent to everyone sending in reception only and QSO confirmation. A stamped self-addressed envelope is required. The QSL manager is Gordon West, WB6NOA, at his callbook address. "Gordo" has been making final adjustments to the rig and antenna system on the balloon to insure the best possible signal on the 2meter band. It had been hoped that Earthwinds might also be able to communicate with the orbiting space shuttle but STS-58 returned to earth before the balloon launch.

LATE BULLETIN - LATE BULLETIN - LATE BULLETIN EARTHWINDS LAUNCH ATTEMPT ABORTED!

Reno, NV. Nov. 6, 1993 - Project spokeswoman Marty Gordon announced Saturday morning that today's launch attempt of the Earthwinds Hilton around-the-world balloon flight from Reno Stead Airfield had to be aborted after a system malfunction caused damage to the crew capsule.

Crew members Larry Newman, Richard Abruzzo and Vladimir Dzhanebekov were not yet aboard the capsule, and no one was injured in the incident that caused the launch to be aborted.

Project leaders suspect that a cable support anchoring the capsule to the ground gave way and caused the capsule to rise prematurely and then fall. The amount of damage caused is undetermined and will have to be assessed.

Project members will immediately begin an evaluation of what caused the system to fail and conduct an assessment of the damage. It will be at least six to eight weeks before another launch attempt can be made. —W5YI Report

--- LATEST BULLETIN ---

At press time it was announced that the round-the-world "Earthwinds" balloon flight is now scheduled for Wednesday, January 5th. -- DD

If you have news and information of interest to the digital amateur radio community, please be sure to let us know.

Speaking of balloon flights...

The members of the North Texas Balloon Project in Fort Worth, Texas, successfully completed their fifth flight of a balloon carrying Amateur Radio on Sunday, 14 November 1993.

Launched at 2012 UTC from an airport 30 miles south of Fort Worth, the balloon and its equipment soared to a height of over 101,000 feet and traveled northeast 115 nautical miles—the furthest distance yet for an NTBP flight. It touched down just over two hours later in a very muddy field near the small town of Petty, Texas, between the cities of Bonham and Paris, just 20 miles from the Texas-Oklahoma border.

This mission marked the first time an NTBP flight carried an ATV transmitter. Pumping out one watt in the 70-cm band, it provided full-color video to hams all over Texas. It was picked up as far away as Salina, Kansas. Videotaped footage clearly shows the earth's curvature at maximum altitude, followed by violent spinning after burst.

The balloon package, shaped like a Mercury space capsule, contained a terminal node controller (TNC) to provide packet data from a Global Positioning Satellite (GPS) receiver also flying aboard. Hams for hundreds of miles collected real-time telemetry on 2 meters: latitude, longitude, altitude, rate of climb, and ground-track velocity. At least one digipeat was made through the balloon.

A 70-cm uplink allowed hams to use the balloon as a temporary satellite station, listening to contacts on 2 meters. One heavy user was W5AC, the Texas A & M University Amateur Radio Club.

This flight was delayed one day because of bad weather. "If we couldn't launch on this Sunday, we may have had to scrub it for the rest of the year," said Doug Howard, KG50A, project manager. Nevertheless, over a dozen direction-finding hams homed in on the balloon's signal, as two more teams directed traffic from private aircraft.

The balloon landed only 20 miles away from its predicted landing point.

Remembering the parachutist dropping in uninvited on a boxing match in Las Vegas recently, a common joke on the Fort Worth repeaters considered the possibility of the package dropping in through the hole in the roof of Texas Stadium in Irving, since the Dallas Cowboys were hosting a football game with the Phoenix Cardinals during the flight!

Techno-Talk Radio

☛ "Ham Radio and More!", a local Phoenix call-in talk show for the past 2-1/2 years is going national. Beginning Sunday Nov. 28 at 6:00 p.m. EST, host Len Winkler, KB7LPW, will broadcast the show coast-to-coast over the Talk America Network. The show covers all aspects of Amateur Radio and features weekly guests, FCC news, give-a-ways, listener call ins, DX news ...and more! "Ham Radio and More?" originates from the studios of KFNN in Phoenix.

Talk America already has over 80 (AM radio) affiliates coast-to-coast. For further information on how your local broadcast station can carry the show, call the Talk America Network at (508) 460-0588 or Winklet at (602) 861-0303. The show can also be picked up via satellite on Satcom C-5. Transponder 19, 6.0 audio and Galaxy 2, Transponder 3, Channel 55.4.

... while on the subject of "talk-radio" - here's some additional Techno-Talk Tidbits aired on commercial radio affiliates which might be of interest.

☛ **Radio Computer Magazine**, Sun Radio Network, (813) 572-9209. Saturday and Sunday, 7:00 w 8:00 p.m. (EST). Computer commentator John Stewart provides a product information showcase of the latest hardware and software for consumers and new home-office entrepreneurs. Providing an educational approach in a folksy manner, the program explains what's new and what works with a concentration on software bargains for under \$100. The show also features in-depth interviews with industry experts on new products and computer trends, plus on-air demonstrations of CD-ROM music and game programs. No call-in questions accepted, but there are telephone contest drawings for new software.

(cont'd on page 18)



(cont'd from page 8)

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Log-EQF Copyright (C) 1993, N3EQF          SETUP MENU - Hit <Esc> to exit.

Callsign → WABBDX
Latitude (N = +)? 28.6                    [Degrees as a decimal number]
Longitude (E = +)? -81.25
Hours to add to clock time for UTC → 4      [Enter 0 if computer = UTC]

POWER level used most often → 100
Logbook Name used most often → LOG

First Program Name for SHELL → DX-EQF %C
Second Program Name to SHELL →

<F1> = DATE FORMAT: mm-dd-yy              <F4> = PRINT COLOR: 14
<F2> = PRINTER TYPE: Standard              <F5> = SCREEN COLOR: 8

<F3> = RADIO: NONE                          <F7> = TNC
  COM port number → 0
  Baud rate → 4800
  Parity (E/O/N) → N
  Data bits (7/8) → 8
  Stop Bits (1/2) → 2
  Base Address → 2E8
  IRQ → 3

  COM port number → 0
  Baud rate → 9600
  Parity (E/O/N) → N
  Data bits (7/8) → 8
  Stop Bits (1/2) → 1
  Base Address → 2E8
  IRQ → 3
  
```

Fig. 2: Setup Menu Screen - For for 1st time setup of individual preferences / parameters

Execution of the program opens the Main Menu (fig. 1). The first time you run the program you will want to go to the 'SETUP Program Configuration' (fig. 2) from the Main Menu. Here you will type in parameters to tailor the program. Info you'll type includes your call, latitude, longitude, logbook name, TNC and Rig parameters (if interfaced to your computer), UTC Time Offset, Screen color preferences, etc.

These parameters are automatically saved on exit which returns you to the Main Menu. Now, to start logging, just tab (or use your arrow keys or mouse) to the 'Log new entries - automatic mode'. This opens the automatic logging screen (fig. 3).

Logging

The logging screen is quite straightforward and is designed to log a maximum amount of information with a minimum amount of typing. For instance, if you have SAM or the Buckmaster Hamcall database installed (Figs. 4, 5 & 6) on your computer, typing the station callsign will automatically lookup the station info and, if found, will fill in the name and QTH in the appropriate fields. Hitting the F5 key will bring up a window providing short and long path bearing headings, ITU & CQ zones, distance and the country's primary callsign prefix. In the case of multiple possibilities for a prefix (such as VP8), the program will bring up the various choices and quiz for a yes or no until you find the correct entry. Entering a foreign callsign, the program will also automatically fill in the country field.

If you enter a station in the callsign field that you have worked before, the info you entered from the previous contact is automatically updated on screen, and the last QSO with that station is shown in a window at the bottom of the screen (Fig. 5). All previous contacts can be toggled through with the tap of any key.

A generous notepad (Fig. 6) capability is also provided for maintaining extensive notes on each contact if desired.

A TRACK field allows you to keep track of anything you would like to keep track of. For instance, if you want to keep track of all QRP QSOs in your main log you could enter QRP in the TRACK field for every QRP QSO you make. Then anytime you wish to review just those contacts, you can perform a search by entering QRP in the TRACK field. This can be

CALLSIGN →	12-04-93 21:57:49 (17:57)
REPORT SENT →	FUNCTION: AUTOMATIC ENTRY
REPORT RCVD →	OPERATOR: WABBDX
	Log-EQF Version 5.20
NAME →	<F1> Save QSO 211
CITY →	<F2> Log Start Time
STATE →	<F3> Edit Log: LOG
COUNTRY →	<F4> Clear Screen
FREQUENCY →	<F5> Callsign Prefix Info
MODE →	<F6> Notepad Entry
POWER LEVEL → 100	<F7> Run Another Program
TRACK →	<F8> Terminal / Scrollback
QSL STATUS → USE: S/R/X/P	<F9> Recheck Prior QSOs
INFO →	<Esc> Main Menu

Fig. 3: Log Screen - in 'automatic entry' mode

CALLSIGN → WBBRMS	ID TIMER	12-10-93 02:27:38 (22:27)
REPORT SENT → 579		SAM Database
REPORT RCVD → 569		Charles J. Arvo (E)
		8113 Maplewood Dr
		Manassas, VA 22111
NAME → CHUCK		<F1> Save QSO 211
CITY → MANASSAS		<F2> QSO Started: 02:27:07
STATE → VA		<F3> Edit Log: LOG
COUNTRY → USA		<F4> Clear INFO Window
FREQUENCY → 14.073		INFO on WBBRMS
MODE → FSK		State = VA
POWER LEVEL → 5		Country = USA (NA)
TRACK → QRP		CQ Zone = 3/4/5
QSL STATUS → USE: S/R/X/P		ITU Zone = 6/7/8
INFO →		Beam Heading = 25 degrees
		Distance = 621 miles

Fig. 4: Log Screen - When a callsign is entered and with SAM callsign database installed - the log will do a search, and if the callsign is found, automatically fill in the Name, City, State and Country fields. If interfaced to your rig, mode and frequency will also be entered. Hitting the F5 key will bring up bearing, distance and zone information. Since I wanted to track QRP contacts, QRP is entered in the Track field. Also note the ID-TIMER activated by typing ALT-T.



CHECKING → WBBWMM	12-06-93 18:03:30 (14:03)
REPORT SENT →	SAM Database
REPORT RCUD →	Terty U. Adams (A)
	41280 Llewellyn Ct
	Northville, MI 48167
NAME →	<F1> Save QSO Z11
CITY →	<F2> Log Start Time
STATE →	<F3> Edit Log: LOG
COUNTRY →	<F4> Clear Screen
FREQUENCY →	<F5> Callsign Prefix Info
MODE →	<F6> Notepad Entry
POWER LEVEL → 100	<F7> Run Another Program
TRACK →	<F8> Terminal / Scrollback
QSL STATUS → USE: S/R/X/P	<F9> Recheck Prior QSOs
INFO →	<Esc> Main Menu

NO.	CALL/NAME	QTH	DATE/FREQ	TIME ON/OFF	SENT/RCUD	QSL/MODE	PUR
	WBBWMM	NORTHVILLE	08-28-93	21:13:47	59*		
	TERRY	MI	14.245	21:34:10	59*	SSB	100
188	OMNI-D	USA					*

<*> = View NOTEPAD ...Hit any key for earlier QSOs or ← to return

Fig. 5: Log Screen - Indicated previous contact in window at bottom of screen. The asterisk (*) indicates there is a notepad entry. Typing the asterisk key brings up the notepad info <Fig. 6>.

CHECKING → WBBWMM	12-06-93 20:32:55 (16:32)
REPORT SENT →	FUNCTION: AUTOMATIC ENTRY
REPORT RCUD →	LAST STN HEARD: WBBWMM
	LAST FREQUENCY:
NAME → TERRY	<F1> Save QSO Z11
CITY → NORTHVILLE	<F2> QSO Started: 20:31:53
STATE → MI	<F3> Edit Log: LOG
COUNTRY → USA	<F4> Clear Screen
FREQUENCY →	<F5> Callsign Prefix Info
MODE →	<F6> Notepad Entry
POWER LEVEL → 100	<F7> Run Another Program
TRACK →	<F8> Terminal / Scrollback
QSL STATUS → USE: S/R/X/P	<F9> Recheck Prior QSOs
INFO →	<Esc> Main Menu

Terry said I am his first QSO with his new AL80-A Amplifier
 Rig: FT-890 / Ant: Dipole --- Operating from his cabin in Northern Michigan.
 At his home QTH in Northville, Terry operates an IC-781 with Kenwood Kw Amp.

HIT ANY KEY

Fig. 6: Log Screen - Typing the asterisk (*) key brings up the notepad with notes made during the previous QSO with WBBWMM. Hitting <Enter> fills in the field blanks described earlier.

a real boon if you are trying to track QSOs for various awards.

Navigating around the logs fields is fast and efficient using mouse or keyboard. You can immediately move to any field with the ALT command plus keying a highlighted letter to the specific field or clicking in the field with the mouse. You can also toggle through the fields using the <Enter> or TAB keys.

By typing ALT-T you activate the logs 10-minute timer which at the end of a 10 minute interval beeps and blinks with the word <IDENTIFY>. This should be of particular interest to Net Control stations.

From the Main Menu you also have the option to select 'Log New Entries - MANUAL MODE.' This mode overrides the real-time features of the program allowing manual entry into all fields... useful if you already have paper logs and wish to enter the data into Log-EQF.

Viewing & Editing

Reviewing and maintaining log entries is quite simple with Log-EQF. The Main Menu screen features both a 'Quick View' <Fig. 7> and 'Detailed View' <Fig. 8> option. In 'Quick View' all pertinent information about the QSO is displayed across one line on the screen and allows for continuous scrolling through all entries. In addition to the above, 'Detailed View' also displays all comments written into the Notepad of any QSO.

Maintaining log entries such as required to update QSL status is also a simple matter. Each QSO in the log is sequentially numbered. While scrolling entries, any specific entry you want to edit can be accomplished by pressing the F1 key and typing in its associated number. The edit screen pops up for that entry, allowing any field, including the Notepad to be easily edited and re-saved with the updated information. By knowing the call-sign of the station you want to edit, from the Main Menu screen you can select 'Edit an entry - based on call-sign'.

Sort and Search

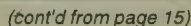
Accessed from the Main Menu screen, Log-EQF offers some powerful options for sorting <Fig. 9> and searching the data in your log. You can use any field for the process. One example of this flexibility is the ability to sort by date & time. Suppose you have been keeping your electronic log for awhile and then decide to update all those old paper logs. Without concern for each QSOs occurrence or sequence you can manually enter all the data and then, with a key-stroke, have all your previous QSOs chronologically updated.

The Search capability is equally flexible. Search data can be directed to screen, printer or file. QSL's can be easily generated from this menu directly to a printer or to a file for editing or deferred printing.

Printing Logs & Labels

You can print your log to a file or directly to a printer in a choice of formats — either detailed or quick-view; the complete log or just the QSO's you desire. The program also gives you a blank title line to type in a name and description of the log prior to printing. QSL label printing features four variations of the standard 5

(cont'd on page 16)





Log-EQF Version 5.20 - CONTEST SETUP MENU WABDXD

Contest NAME → ARRL 160-Meter Contest

Contest LOGBOOK NAME → 160CW

Number of QSO's PER PAGE on printed results → 50
 POINTS for each CW or FSK QSO → 2
 POINTS for each Phone QSO → 0
 Does each BAND/MODE require a SEPARATE DUPE SHEET? Y

Enter the default REPORT to be SENT for exchange → 599-WPA
 Is there a SERIAL NUMBER sent as part of exchange? N

Enter the default REPORT to be NCVD for exchange → 599
 Enter MULTIPLIER FIELD title for NCVD exchange, if any → SECTION

Select the configuration parameters listed above and hit <Esc> key to save them in disk file CONTEST.ID

Fig. 11: Contest Setup Screen

be switched to the exact frequency. If you are logged onto the local Cluster, announcing the DX spot is a simple matter. With call entered on the logging screen, a couple of keystrokes will announce the spot for everyone else. The program reads the frequency and call automatically eliminating retyping.

Log Utilities

As mentioned earlier, registered users of Log-EQF also receive additional program files adding to the logs overall functionality. Rig-EQF is one, discussed earlier, the others are DX-EQF and FILE-EQF. DX-EQF <Fig. 14> allows you to keep track of your DXCC progress with ability to view on screen and print out status reports.

FILE-EQF <Fig. 15> gives you the ability to convert files to and from

CALLSIGN →

REPORT SENT →

REPORT NCVD →

NAME →

CITY →

STATE →

COUNTRY →

FREQUENCY →

MODE →

POWER LEVEL → 100

TRACK →

QSL STATUS → USE: S/R/X/P

INFO →

10-24-93 16:06:54 (12:06)

FUNCTION: AUTOMATIC ENTRY
 OPERATOR: WABDXD
 Log-EQF Version 5.20

<F1> Save QSO 200
 <F2> Log Start Time
 <F3> Edit Log: LOG
 <F4> Clear Screen

<F5> Callsign Prefix Info
 <F6> Notepad Entry
 <F7> Run Another Program
 <F8> Terminal / Scrollback
 <F9> PacketCluster (tm)
 <Esc> Main Menu

DX de WA1PCM: 21031.0 XSBEL 15592
 M4WU→X0LIZ: 21031.0 XSBEL 15592
 DX de WA1PCM: 21031.0 XSBEL 15592
 M4WU→X0LIZ: 21031.0 XSBEL 15592
 DX de WA1PCM: 21031.0 XSBEL 15592

Fig. 13: Logging Screen interfaced to TNC monitoring packet activity

other log programs, including dBase, ARIES, CT and NA. This feature can make it possible to keep Log-EQF as your master log, while, for instance, enjoying the full functionality of a dedicated contest log such as CT or NA during a contest. Then, after the contest, your dedicated contest logs can be converted to Log-EQF.

Summary

If you are looking for a means to integrate your TNC, RIG, and LOG with your computer, Log-EQF deserves your strong consideration. Match the power of the program, well presented documentation (on disk), tech support, the \$25.00 price tag to register, and you have a program that would seem hard to beat. If you wish to give Log-EQF a test drive, just drop a note and \$5.00 (specify 3.5" or 5.25" disk) to Tom Dandrea, N3EQF, 396 Sauter Drive, Coraopolis, PA 15108.

TS-850S @ COM 2: RIG-EQF Kenwood Radio Control V1.63 13:35:14

UFD A 14.075.01

UFD A: 14.075.01 Mhz.
 UFD B: 14.066.91 Mhz.
 RIT: off

<A> UFD A Frequency Enter
 UFD B Frequency Enter

<=> UFD A = UFD B
 <U> UFD A/B Switch
 <S> Split UFD On/Off

<D> DOWN 1 Mhz / <U> UP 1 Mhz
 <L> LOCK Frequency On/Off

<PgUp-PgDn> Tune UFD Frequency
 <Space Bar> Transmit/Receive

<M> MODE Change from: FSK

<R> RIT On/Off
 <X> XIT On/Off
 <Z> ZERO RIT/XIT

<P> Program SCAN Control
 <O> Local MEMORY Control

<I> Select another RADIO

<Esc> EXIT RIG-EQF Program

Fig. 12: RIG-EQF Screen interfaced to Kenwood TS850s

DXCC Summary for ALL BANDS - MIXED

DXCC Countries ----- 328

Countries Worked ----- 16
 Countries QSL'd ----- 3

QSL's Outstanding ----- 13
 Countries Needed ----- 312

Deleted Countries ----- 0

ARRL Checked ----- 0
 Last DXCC Update ----- 12-05-1993

Hit any key for Menu...

Fig. 14: DX-EQF Screen showing summary of QSOs worked and confirmed

Select Logbook Type to INPUT <F1>

dBASE III+ & IV

ARIES-2

ARIES-1 (ASCII)

KLEA - CT Contest

LOG-EQF

NOCC - NA Contest

This utility is used to convert from one logbook format to another.

Select which type of logbook format you are converting FROM. Position the highlight bar to the logbook type desired, and hit <F1>. Enter the logbook name below when asked.

<F3> MERGE two Log-EQF files

The <Esc> key exits this utility.

Version 2.0

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 Thomas Dandrea - N3EQF

Fig. 15: FILE-EQF Screen file conversion utilities



(cont'd from page 13)

➤ **On Computers**, SNP Radio Network, (800) 578-0750. Sunday, 1:00 to 4:00 p.m. IEST). A caller-driven show that receives listener questions by fax, modem, and online. Mixing home-office and consumer information, the show offers a "Picks of the Week" feature celebrating the best new product, interviews with leading figures from and observers of the computer world, and the latest high-tech gossip for those listeners interested in the computer industry's corridors of power. The highly opinionated host, Leo Laporte, ranted during one show about a particular answering machine manufacturer due to his own personal problems with the product.

➤ **Computer America**, Business Radio Network, (800) 800-8852. Saturday, 8:00 to 9:00 a.m.; Sunday, 3:00 to 5:00 p.m. IEST). Columnist and radio personality Craig Crossman speaks with listeners and industry experts on the latest computer trends. Hang on, though, because

the show is a fast, staccato tour of the latest, greatest, and worst. Working with a business-oriented focus, the program features updates on a wide variety of computer-related applications, such as computer usage for the disabled, the use of computers in law enforcement, and computers and art. Comparisons of all the new product's features are also included.

➤ **Technology Today**, Business Radio Network, (800) 800-8852. Saturday, 6:00 to 7:00 a.m.; Sunday, 8:00 to 9:00 a.m. (EST). From the home office into the spheres of industry, the segment is hosted by professor and television computer commentator Andy Lightbody. Recent shows have focused on the latest technological trends within communications, aerospace, artificial intelligence, and computer applications for the automotive, defense, and entertainment industries. This program is prerecorded.

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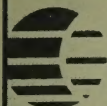
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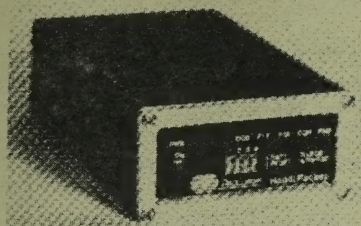
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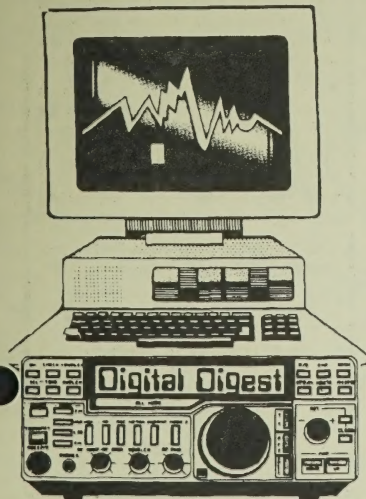
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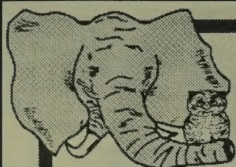
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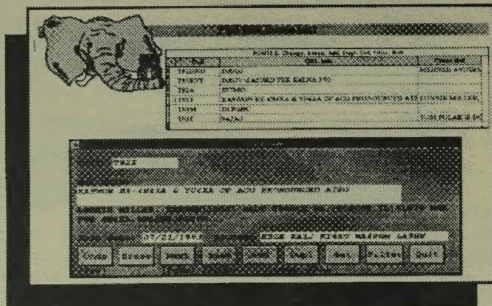
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(cont'd from page 11)

NA5E, a GENie(tm) Sysop) for not including mention of GENie(tm), one of the oldest on-line services, in our review. From reader info we received, GENie obviously should have been included, and our apologies for the oversight. Here is a brief overview of GENie (the General Electric Network for Information Exchange). For radio enthusiasts, once signed on, you can check into the Radio, Electronics and Broadcasting RoundTable. Here you'll find bulletin board messaging, 1000s of software files, real-time conferencing, NTS messaging, practice license exams and much more. The RADIO RT, as the forum is commonly called, has a large number of participating vendors and organizations. The base monthly fee for GENie(tm) is \$8.95 (CAN \$10.95) and entitles users up to 4 hours on-line a month. Beyond that, GENie(tm) charges \$3.00 p/hr. to access any of several hundred on-line products. Special software is also made available to automatically download messages and files. These programs also allow for the reading and creation of replies in an off-line state.

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